



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Memorandum

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| Subject: | Action: Review and Concurrence, Equivalent Level of<br>Safety Finding for Gulfstream Model GIV-X<br>FAA Project Number No. AT5080AT-T | Date:                | August 28, 2003           |
|          |   | Reg. Ref:            | § 25.807                  |
| From:    | Manager, Propulsion and Mechanical Systems, ANM-112   | Reply to<br>Attn of: | Carla Wendler<br>ACE-115A |
| To:      | Manager, Atlanta ACO, ACE-115 A   | ELOS<br>Memo#:       | AT5080AT-T-A-2            |

## Background

Gulfstream Aerospace Corporation (GAC) is updating the design of their GIV business jet aircraft to a derivative model known as the GIV-X. The GIV-X certification basis has been set as 14 CFR Part 25 at Amendment 25-101 for the modified areas of the GIV. GAC has requested to maintain the original certification basis of the GIV for the oval emergency exit windows with a horizontal major axis. The original certification basis is § 25.807 at Amendment 25-56 including § 25.807(c)(2) at Amendment 25-15. Gulfstream plans to demonstrate an equivalent level of safety to that rule.

## Applicable regulation(s)

§ 25.807

## Regulation(s) requiring an ELOS

§§ 25.807 at Amendment 25-56, including 25.897(c)(2) at Amendment 25-15

## Description of compensating design features or alternative standards which allow the granting of the ELOS (including design changes, limitations or equipment need for equivalency)

The following compensating features are required for an equivalent safety finding by the FAA:

- a. One Type I main entry door which is larger than the regulatory Type II entry door,
- b. A pair of elliptical exits on the left side of the airplane in addition to the pair on the right side of the airplane (this increases the number of exits, to a total of five exits, over the regulatory requirement of one Type II exit on the left side of the airplane and one Type III or two true Type IV exits on the right side of the airplane);
- c. Configuration specific emergency briefing cards for each passenger seat; and

- d. The Airplane Flight Manual must document that a pre-flight safety briefing on the configuration specific egress procedures and exits of the airplane must be provided prior to each flight, regardless of the type of operation.

**Explanation of how design features or alternative standards provide an equivalent level of safety to the level of safety intended by the regulation**

Even though the oval emergency exit windows with a horizontal major axis are slightly smaller and have a slightly slower egress rate than a true Type IV exit, the FAA has found the compensating features as noted above are sufficient and improve the overall evacuation capability of the GIV-X.

**FAA approval and documentation of the ELOS**

The FAA has approved the aforementioned Equivalent Level of Safety Finding for the GIV-X in Issue Paper A-2. This memorandum provides standardized documentation of the ELOS that is non-proprietary and can be made available to the public. The Transport Directorate has assigned a unique ELOS Memorandum number (see front page) to facilitate archiving and retrieval of this ELOS. This ELOS Memorandum number should be listed in the Type Certificate Data Sheet under the Certification Basis section (TC's & ATC's) or on page 3 of the STC Certificate. [E.g. equivalent safety findings have been made for the following regulation(s): 25.807 Emergency exits (documented in TAD ELOS Memo No. AT5080AT-T-A-2)].

Original signed by Franklin Tiangsing

1/14/04

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Manager, Airframe & Cabin Safety , ANM-115

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Date

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| ELOS Originated by:<br>Atlanta ACO | Program Manager:<br>Carla Wendler | Routing Symbol:<br>ACE-115A |
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